

Appl. No. 10/685,097
Amdt. dated June 13, 2005
Reply to Office Action of April 26, 2005

REMARKS

Applicants wish to thank the Examiner for the telephone interview of June 8, 2005, and her helpful comments and assistance regarding the present application.

Claims 1-37 stand rejected under 35 U.S.C. § 103(a) as unpatentable over U.S. Patent No. 5,948,353 ("*Lawrence et al.*"). In particular, the Examiner asserts that *Lawrence et al.* "discloses a gray cast iron alloy having a composition with constituents whose wt% ranges overlap those recited by claims 1 to 37." Applicant respectfully traverses this rejection.

The present application describes a high tensile strength gray iron alloy that contains both molybdenum and copper. The inventors have discovered that the presence of molybdenum and copper has a cooperative effect that provides several unexpected advantages, including increasing the tensile strength of the gray iron alloy, without substantially increasing the hardness and reducing the machineability of the alloy in comparison to conventional gray iron. (See p. 10, ¶ 26.)

As presently amended, all claims currently pending in the application are directed to gray iron alloy compositions "consisting essentially of" the recited components, including molybdenum and copper. Independent claims 1, 11, 20 and 34 have been amended to delete the term "comprising" and insert the phrase "consisting essentially of." As originally submitted, independent Claims 18 and 19 are directed to a gray iron alloy composition "consisting essentially of" the recited components.

In contrast to the claimed gray iron alloys, *Lawrence et al.* discloses gray iron alloys containing the additional component tin (see, e.g., col. 1, line 64; col. 2, line 34.), which is used to increase the hardness of the gray iron alloy for purposes of improving its wear resistance (see col. 3, lines 11-18). Thus, the use of tin in gray iron alloys as described by *Lawrence et al.* has a

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material effect on the properties of, and teaches away from, the gray iron alloys of the present application that are designed to retain the hardness and machineability characteristics of conventional gray iron. Furthermore, *Lawrence et al.* fails to teach or suggest that molybdenum and copper have a cooperative effect in a gray iron alloy and, therefore, fails to provide any motivation to make the claimed gray iron alloys.

Pursuant to the June 8 interview and for the reasons discussed above, it is applicant's understanding that the amended claims will be favorably received by the Examiner.

CONCLUSION

In view of the foregoing, applicant respectfully submits that claims 1-37 are patentable over the prior art. Should the Examiner believe that a conversation with applicant's representative would be useful in the prosecution of this case, the Examiner is invited to call applicant's representative at the number listed below.

Respectfully submitted,

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